



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,791	10/27/2003	Li-Yi Chen	CMOP0025USA	2790
27765 7590 07/31/2007 NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION P.O. BOX 506 MERRIFIELD, VA 22116			EXAMINER BECK, ALEXANDER S	
			ART UNIT 2629	PAPER NUMBER
			NOTIFICATION DATE 07/31/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

winstonhsu.uspto@gmail.com  
Patent.admin.uspto.Rcv@naipo.com  
mis.ap.uspto@naipo.com.tw

## Office Action Summary

**Application No.**

10/605,791

**Applicant(s)**

CHEN ET AL.

**Examiner**

Alexander S. Beck

**Art Unit**

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-7 and 9-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-7 and 9-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on May 8, 2007 (hereinafter "Amendment"), in response to the final Office action mailed on February 9, 2007, has been entered, in which: claims 1, 6 and 7 are amended; claim 8 is cancelled; and new claims 15-22 are added. Claims 1, 3-7 and 9-22 are currently pending in U.S. Patent Application No. 10/605,791 and an Office action on the merits follows.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

Art Unit: 2629

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 3-7 and 9-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Publication No. 2002/0063671 by Knapp (hereinafter "Knapp").

As to independent claim 1, Knapp discloses a display panel in Figure 3 comprising: a first scanning band (1 through K), a second scanning band (K+x through M) and a third scanning band (K through K+x) positioned between the first scanning band and the second scanning band, and each scanning band including a plurality of parallel scanning lines (1 through M); a plurality of parallel data lines (1 through N) extending across the first scanning band, the second scanning band and the third scanning band, the data lines and the scanning lines being perpendicular to each other, and each of the data lines including a disconnecting point positioned in the third scanning band; a plurality of pixel units (10), each pixel unit being positioned around an intersection point of one scanning line and one data line and being electrically controlled by both the scanning line and the data line; and a first data driver (35A) and a second data driver (35B) electrically connected to the data lines for inputting image data into each pixel unit. (Knapp at ¶¶ [0027, 0028].) Moreover, Knapp discloses that when the scanning lines of the third scanning band scan along a third scanning direction according to a second scanning signal, the first data driver and the second data driver input the same image into each pixel unit positioned in the third scanning band simultaneously. (Knapp at ¶ [0029].)

Knapp does not disclose expressly for the embodiment in Figure 3 that when scanning the first scanning band and the second scanning band simultaneously, the first data driver inputs the image data into the first scanning band and the second data driver inputs the image data into the second scanning band, wherein the scanning lines of the first scanning band and the second scanning band scan along a first scanning direction and a second scanning direction according to a first scanning signal.

However, Knapp discloses in the background of the prior art a first data driver and a second data driver electrically connected to the data lines for inputting image data into each pixel unit, such that when scanning the first scanning band and the second scanning band simultaneously, the first data driver inputs the image data into the first scanning band and the second data driver inputs the image data into the second scanning band. (Knapp at ¶ [0007].)

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the teachings of Knapp such that when scanning the first scanning band and the second scanning band simultaneously, the first data driver inputs the image data into the first scanning band and the second data driver inputs the image data into the second scanning band, as taught/suggested in the background of Knapp. As such, the scanning lines of the first scanning band and the second scanning band scan along a first scanning direction and a second scanning direction according to a first scanning signal (e.g. the first scanning signal being the signal scanning when the first and second bands are addressed simultaneously). The suggestion/motivation for doing so would have been to reduce the power dissipated in the column driver circuits. (Knapp at ¶ [0007].)

Art Unit: 2629

As to claim 3, Knapp discloses the display panel in Figure 3 further comprising a signal supplier (40) for supplying each pixel unit with the image data. (Knapp at ¶¶ [0027, 0028].)

As to claim 4, Knapp does not disclose expressly the display panel further comprising a memory for storing the image data supplied by the signal supplier, with the stored image data being further outputted from the memory into the first data driver and the second data driver.

However, the examiner takes official notice that a signal supplier, memory and first and second data drivers operating together as presently claimed is old and well known in the art. (Specification at Figure 2; Applicant's Admission of Prior Art.) Thus, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the teachings of Knapp such that a signal supplier, memory and first and second data drivers operated together as presently claimed. The suggestion/motivation for doing so would have been to selectively display data on an active matrix by controlling the transmission of data from a controlling unit to respective data drivers by latching the data in a memory means.

As to claim 5, Knapp discloses the display panel in Figure 3 further comprising a gate driver (30) for applying scanning signals to the scanning lines of each scanning band. (Knapp at ¶¶ [0027, 0028].)

As to claim 6, Knapp as modified in claim 1 above teaches/suggests the display panel wherein when the first data driver and the second data driver respectively input the image data into each pixel unit positioned in the first scanning band and the second scanning band, the gate driver applies the first scanning signal to the scanning lines of the first scanning band in sequence according to the first scanning direction so as to enable the pixel unit electrically controlled by each scanning line of the first scanning band to accept a corresponding image data,



Art Unit: 2629

and the first scanning signal is simultaneously applied to the scanning lines of the second scanning band in sequence according to a second scanning direction so as to enable the pixel unit electrically controlled by each scanning line of the second scanning band to accept a corresponding image data. (Knapp at ¶¶ [0007, 0027-0029].)

As to claim 7, Knapp discloses the display panel in Figure 3 wherein the gate driver applies a second scanning signal to the scanning lines of the third scanning band in sequence according to a third scanning direction. (Knapp at ¶¶ [0027-0029].)

As to claims 9-14, Knapp does not disclose expressly wherein the first and second scanning directions are identical, the third and first scanning directions are identical, the third and first scanning directions are opposite, or the first scanning direction and the second direction are opposite.

However, since the applicant has failed to disclose that the various scanning directional relationships between the first, second and third directions are used for a particular purpose, or solves a stated problem, it is an obvious matter of design choice to have such a variety of scanning directional relationships in the teaching of Knapp. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to further modify the teachings of Knapp such that the various scanning directional relationships were included. The suggestion/motivation for doing so would have been that any scanning directional relationship, including the ones claimed, would perform equally well at actively addressing individual pixels across the pixel matrix structure.

As to claims 15-22, which recite the method of driving the liquid crystal display panel, all of the claim limitations have been discussed and met by Knapp as detailed in the above paragraphs with respect to claims 1-14.

### *Response to Arguments*

4. Applicant's arguments filed May 8, 2007, have been fully considered but they are not persuasive. Applicant argues that although the combination of the background and the specification of Knapp may have suggested that when scanning the first scanning band and the second scanning band simultaneously, the first data driver would input image data into the first scanning band and the second data driver would input image data into the scanning band, Knapp still does not teach that the first data driver and the second data driver simultaneously input the same image data into the third scanning band. (Amendment at p. 7.)

Examiner respectfully disagrees. Knapp discloses wherein the first data driver and the second data driver simultaneously input the same image data into the third scanning band, as both drivers need to be operating when the third scanning band is addressed. (Knapp at ¶ [0029].) Moreover, it is noted that a “second scanning signal”, as presently claimed, is applied from the gate driver (30) to the scanning lines of the third scanning band so as to enable the pixel unit electrically controlled by each scanning line of the third scanning band to accept a corresponding image data. (Knapp at Figure 3.) Broadly interpreted, a “second scanning signal” is any scanning signal that is applied by the gate driver during which the third scanning band is addressed.



Art Unit: 2629

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander S. Beck whose telephone number is (571) 272-7765. The examiner can normally be reached on M-F, 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alexander S. Beck  
July 20, 2007

  
SUMATI LEFKOWITZ  
SUPERVISORY PATENT EXAMINER